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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,895

06/13/2007

Yasushi Aizawa

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EXAMINER

POWERS, FIONA

ART UNIT

PAPER NUMBER

1626

MAIL DATE

DELIVERY MODE

12/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,895	Applicant(s) AIZAWA ET AL.	
	Examiner Fiona T. Powers	Art Unit 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 contains periods within the claim and does not end in a period. The period on line 3 should be deleted, the period on line 7 should be replaced with a comma, and on the last line the ")" after the period should be deleted.

On line 6, "(In" should be replaced with - in-.

On line 7, "from" should be inserted after "different".

The term "General" before "Formula" on lines 1, 4 and 6 renders the claim indefinite and should be deleted.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the

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differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hohsaka et al. (US 2001/0044074) and Namba et al. (US 6071672) and Sun et al. (The Imaging Science Journal, 47(2), 113-117, 1999), cited.

Determination of the scope and content of the prior art (MPEP §2141.01)

The references disclose structurally similar cyanine dyes that are used for optical recording material. The cyanine dyes of Hohsaka et al. '074 are a salt of a cyanine dye cation and an azo cobalt complex anion and are structurally similar to the claimed cyanine dyes of the General Formula 1 in which Z^1 and A^2 are condensed heterocyclic aromatic rings which are naphthalene and R^1 to R^6 are independently aliphatic hydrocarbon groups such as methyl, ethyl and butyl. Note Chemical Formulas 16, 21, 34 and 67 on pages 6 to 13 of Hohsaka et al. '074.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The cyanine dyes of Hohsaka et al. differ from the claimed cyanine dyes of the General Formula 1 only in that they are trimethine cyanine dyes instead of monomethine cyanine dyes.

Finding of prima facie obviousness---rational and motivation (MPEP §2142-2413)

Namba et al. '672 discloses cyanine dyes similar to those of Hohsaka et al. that contain a different anion. Namba et al.

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'672 discloses the interchangeability of monomethine cyanine dyes with trimethine cyanine dyes in optical recording medium. Note formula (2) in the abstract where n is 0 or 1. Also note the dyes of the formulae D-5, D-6, D-7, D-8, D-9-1 to D-9-4 in columns 15 to 19 of Namba et al. '672.

Sun et al. disclose indocyanine dyes of different methine chain length useful for optical recording medium. Note the abstract and Figure 1 of Sun et al. The monomethine indocyanine dye D-1 was compared to the analogous trimethine (D-2), pentamethine (D-3) and heptamethine (D-4) indocyanine dyes in Table 1 on page 114. Sun et al. disclose "to meet the development of a short wavelength of the diode laser, new materials suitable for optical recording at a corresponding wavelength need to be found" (page 113). The results of Table 1 show that the monomethine dye had the shortest maximum absorption band. In the conclusion (p. 116), Sun et al. disclose that

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1. Both the molar extinction coefficient and the refractive index of D-1 are lower than those of other indolenine cyanine dyes.
2. As the central conjugated methine length increased, the decomposition temperature of the dyes decreased. D-1 shows the highest decomposition temperature.
3. D-1 film can exhibit relatively high reflection and low absorption at a wavelength of 480 nm. Therefore D-1 has been predicted to be the next-generation DVD-R medium.

One of ordinary skill in the art would have been motivated to make the claimed cyanine dyes of the General Formula 1 by substituting a monomethine cyanine dye disclosed by Namba et al. or Sun et al. for the trimethine cyanine dye of Hohsaka et al. with the expectation that cyanine dyes with superior properties useful for optical recording medium would be obtained. The claimed cyanine dyes would have been rendered obvious by the teachings of the references in the absence of any unobvious property.

The comparative data on pages 23 to 26 of the specification has been fully considered and deemed not persuasive of the patentability of the claimed cyanine dyes because the closest prior art dyes which are the cyanine dyes of Hohsaka et al. '074 mentioned above were not compared.

No claim is allowed.

The references made of record and not relied upon show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fiona T. Powers whose telephone number is 571-272-0702. The examiner can normally be reached on Monday - Friday 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Fiona T. Powers/
Primary Examiner, Art Unit
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December 17, 2008